Audit of Timber Harvesting and Road Construction, Maintenance and Deactivation

Canadian Forest Products Ltd.
Tree Farm Licence 48

FPB/ARC/29

November 2000

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Report from the Board

A. Report from the Board

This is the Board's report on a compliance audit[1] of Tree Farm Licence 48[2] (TFL 48) held by Canadian Forest Products Ltd. (Canfor), Chetwynd Division. TFL 48 surrounds the community of Chetwynd (see map).

The audit examined Canfor's operational planning (including forest development plans, silviculture prescriptions, and logging plans); timber harvesting; and road construction, maintenance and deactivation activities for the period of September 1, 1998, to September 22, 1999.

Before completing this report, the Board considered written representations from Canfor as required under section 182 of the *Forest Practices Code of British Columbia Act* (the Act). The Board also considered the Report from the Auditor along with supporting audit evidence. Based on its analysis of this information, the Board has accepted the auditor's report and provides the following conclusions and recommendations.

Conclusions

Except for the significant non-compliance addressed below, Canfor's timber harvesting, road maintenance and road deactivation practices generally complied with Forest Practices Code (*Forest Practices Code of British Columbia Act* and related regulations) requirements. Canfor was able to achieve a generally high level of compliance with the Forest Practices Code while operating in an area which has very mountainous terrain, varied soil types and high rainfall.

Canfor's September 1999 bridge inspections did not contain all of the required information and several bridges were not inspected at the required frequency. Once bridge inspections were completed, two bridges were condemned; however, timely and appropriate action was not taken. The *Forest Road Regulation* specifies that, once condemned, the bridges should have been closed, removed or replaced. In this case the company chose to post the approaches to the bridges with signs stating "Use at Your Own Risk." Since these structures had been condemned by a qualified professional, it would have been reasonable and prudent for the company to restrict use of these bridges by placing a log across each end of the bridge. The purpose of the *Forest Road Regulation* is to ensure bridges are safe for both industrial and public users of the structures, and the Board supports the auditor's view that the company action did not constitute closure of the structure.

Notwithstanding the finding of significant non-compliance, the Board notes that, subsequent to the audit field work, Canfor dealt with the two condemned bridges by replacing one and removing the other.

Additionally, Canfor has taken significant steps to improve its bridge inspection process. Canfor has advised the Board that it identified a need for a comprehensive, formal bridge inspection system and that it embarked on a process approximately two years ago to

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1 Part C of this document provides background information on the Board's audit program and the process followed by the Board in preparing its report.

2 The Report from the Auditor (Part B of this document) provides specifics about the operating areas of Tree Farm Licence 48, the forest planning and field activities of Canadian Forest Products Ltd. that were the subject of this audit, and the audit findings.

implement the new system. Canfor has informed the Board that the new bridge inspection system will result in a timetable for any bridge repairs required, and a scheduled work plan once all needed repairs are identified.

Recommendation

As provided by section 185 of the Act, the Board recommends that Canfor ensure that all future bridge inspections comply with the requirements of section 16 of the *Forest Road Regulation*. Section 16 of the *Forest Road Regulation* contains requirements such as including the date of the next scheduled inspection, a recommendation for any repairs that may be required and a schedule for those repairs.

In accordance with section 186 of the Act, the Board requests that Canfor advise the Board, by January 31, 2001, of the actions taken and the timing involved to address this recommendation. Canfor's advisement to the Board may include the submission of a sample of bridge inspections completed in 2000.

W.N. (Bill) Cafferata, RPF
Chair
November 1, 2000

Report from the Auditor

B. Report from the Auditor

1. Introduction

As part of the Forest Practices Board's 1999 compliance audit program, Tree Farm Licence 48 (the TFL) was selected for audit from the population of major licences within the Prince George Forest Region. The TFL, held by Canadian Forest Products Ltd. (Canfor), was selected randomly and not on the basis of location or level of performance.

TFL 48 is located in the Dawson Creek Forest District and is managed by Canfor's Chetwynd Division. The TFL is located around the community of Chetwynd. The licence area, comprising five separate geographical blocks, extends in the south from the Murray River to approximately 30 kilometres north of Hudson Hope situated on the Peace River. To the west the licence extends to the forest district boundary which follows the height of the Rocky Mountains. The eastern block within the licence is located approximately 30 kilometres east of Chetwynd, as shown on the attached map.

Canfor's allowable annual cut within the TFL is 401,370 cubic metres.

2. Audit Scope

The audit examined Canfor's planning and field activities related to timber harvesting and road construction, maintenance and deactivation. These activities were assessed for compliance with the *Forest Practices Code of British Columbia Act* and related regulations (the Code).

All timber harvesting and road construction, maintenance and deactivation activities and obligations for the period September 1, 1998, to September 22, 1999, were included in the scope of the audit. This involved examining all aspects of operational planning - such as forest development plans,[1] silviculture prescriptions,[2] and, where applicable, logging plans[3] - that supported the activities examined during the audit.

The activities carried out by Canfor during the audit period, and therefore subject to audit, were:

- harvesting of 72 cutblocks
- harvesting of 27 small scale salvage areas
- operational planning for 92 approved silviculture prescriptions, of which 15 relate to harvested cutblocks
- construction of 52 road sections totaling 75.9 kilometres
- planning for road layout and design of 22 road sections totaling 52.3 kilometres
- maintenance and seasonal deactivation of approximately 1,094 kilometres of road, involving activities such as surfacing and the cleaning of culverts and ditches
- construction of three bridges and maintenance of 44 bridges
- permanent deactivation of seven road sections totaling 17.1 kilometres

Operations in the audit period were governed by the 1998 to 2003 Forest Development Plan.

Section 3 describes the audit of these activities, and the results. The Board's audit reference manual, *Compliance Audit Reference Manual, Version 4.0, May 1999*, sets out the standards and procedures that were used to carry out this audit.

3. Audit Findings

A. Planning and practices examined

The audit work on selected roads and cutblocks included ground-based procedures and assessments from the air using helicopters. The audit examined the following activities:

- harvesting of 24 cutblocks during the audit period and their related silviculture prescriptions, of which six were prepared during the audit period
- harvesting of 11 small scale salvage areas during the audit period
- 5 cutblocks where harvesting activity had not commenced but the related silviculture prescriptions were approved during the audit period
- construction of 36 road sections totaling 56 kilometres
- road layout and design of 21 road sections totaling 52.2 kilometres, where construction activity had not commenced
- maintenance and seasonal deactivation of approximately 260 kilometres of road
- construction of three bridges and maintenance of 20 bridges
- permanent deactivation of three road sections totaling 5.5 kilometres

B. Findings

The audit found that, with the exception of bridge maintenance activities, Canfor complied, in all significant respects, with the timber harvesting and road construction, maintenance and deactivation requirements of the Code.

Bridge Inspections and Maintenance

The audit identified a situation of significant non-compliance with respect to bridge maintenance. The non-compliance involved deficiencies in bridge inspections and a potential user safety issue.

The Code requires that all bridges must have a bridge inspection completed in writing by a qualified inspector at least once every two to three years, depending on the materials used in the bridge's structural components. As well, these inspection reports must contain specific information, such as the schedule for any repairs required and the date of the next scheduled inspection.

During the course of the audit, 20 of the 44 bridges that Canfor is required to maintain were audited. Six of these bridges are located on forest service roads for which Canfor is responsible

to conduct routine maintenance. All of the remaining 14 bridges, which are required to be inspected by Canfor, were inspected in 1999. However, none of these inspection reports contained all of the required information, such as: a schedule for required repairs, if any; the date of the next scheduled inspection; or the length of time the bridge has been at its current site.

Of these 14 bridges, six were not inspected at the required frequency prior to the inspection conducted in September 1999. Of these six, three were found by the inspector to be unsafe for industrial use. Two were immediately condemned and one was posted safe for pickup traffic only. These three bridges have been available for use since the inception of the Code yet Canfor had failed to formally inspect them prior to September 1999. One condemned bridge, the Hasler 61.3 kilometre bridge, was actively hauled on in the winter of 1998. The lack of formal inspections is a significant safety concern, not only for drivers of industrial vehicles, but also for recreational users who drive into the area.

Once Canfor's inspector made them aware of the condemned bridges, Canfor placed signs beside the bridges stating the bridges were condemned, and to be "used at your own risk." However, as of September 22, 1999, Canfor had not taken appropriate action to prevent public use, such as closing, removing or replacing the bridges, as required by the Code.

Prior to the audit, Canfor was aware of and was addressing the systemic weaknesses in their bridge inspection and maintenance tracking system. Canfor has since completed an overhaul of the record-keeping component of this tracking system. The system is now able to generate an inspection and maintenance repair plan, and track implementation of the plan. With respect to the two condemned bridges, subsequent to the audit field work, Canfor has replaced one of the bridges and has removed the other bridge.

The main sections of the Code to which the non-compliance relates are sections 16 and 17(1)(b) of the *Forest Road Regulation*.

4. Audit Opinion

In my opinion, except for the bridge inspections and maintenance practices described below, the timber harvesting and road construction, maintenance and deactivation activities carried out by Canadian Forest Products Ltd. on Tree Farm Licence 48, from September 1, 1998 to September 22, 1999 were in compliance, in all significant respects, with the road and harvesting requirements of the Code as of September 1999.

As described in section 3, the audit identified significant non-compliance involving bridge inspections and maintenance practices. Inspections conducted in September 1999 did not contain all of the required information, and several bridges were not inspected at the required frequency. Once inspections were conducted, two of the bridges were condemned, but corrective action was not taken in a timely manner. If bridges are not regularly inspected and maintained there is a potential for significant safety problems for both industrial and recreational road users.

In reference to compliance, the term "in all significant respects" recognizes that there may be minor instances of non-compliance that either may not be detected by the audit, or that are detected but not considered worthy of inclusion in the audit report.

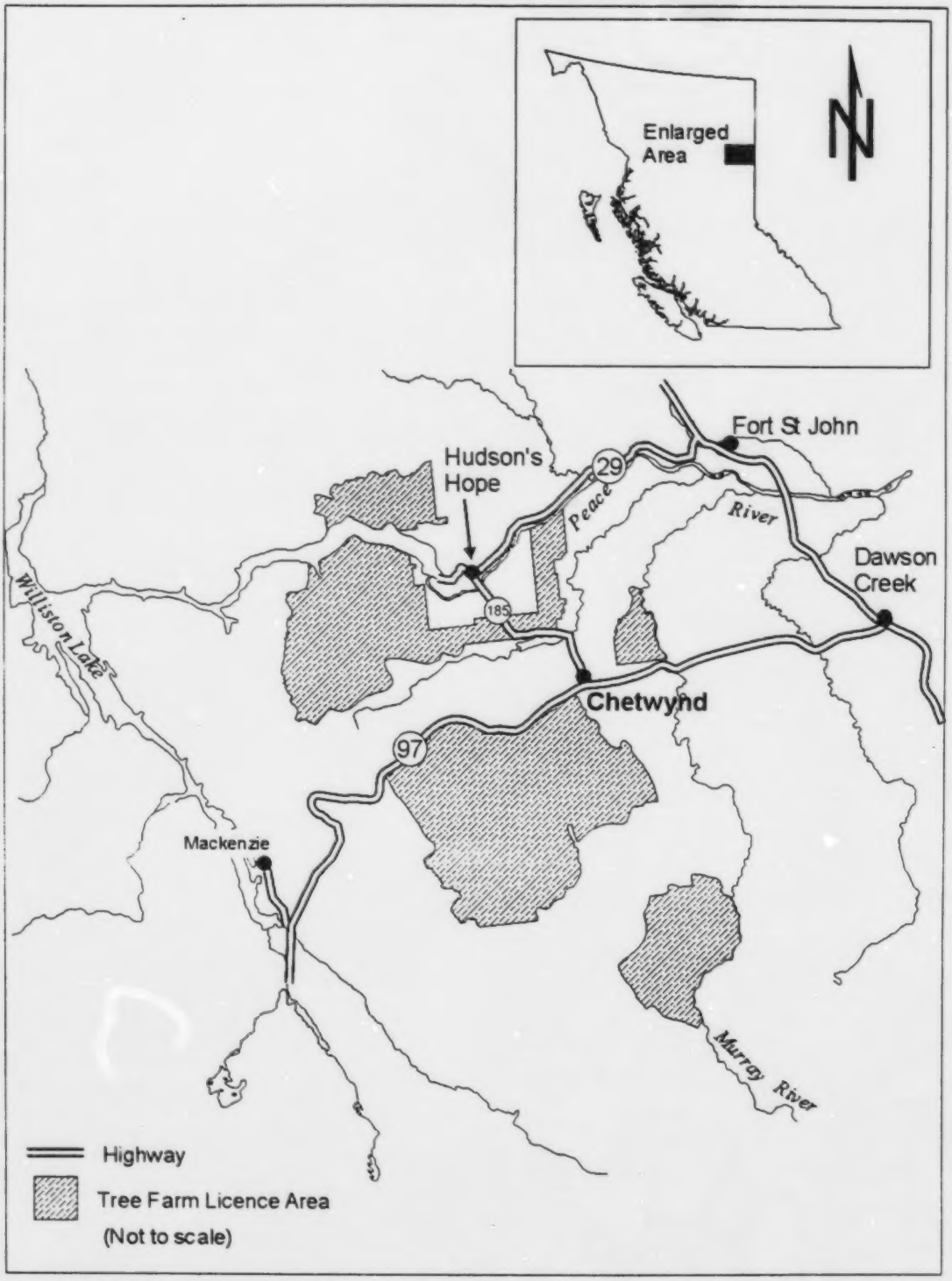
Sections 2 and 3 of this report from the auditor describe the basis of the audit work performed in reaching this qualified opinion. The audit was conducted in accordance with the auditing standards of the Forest Practices Board. Such an audit includes examining sufficient road and timber harvesting practices to support an overall evaluation of compliance with the Code.

C R Mosher

Christopher R. Mosher, CA
Auditor of Record

Victoria, British Columbia
August 11, 2000

Audit of Canadian Forests Products Ltd.
Tree Farm Licence 48



Endnotes

1. A forest development plan is an operational plan which provides the public and government agencies with information about the location and scheduling of proposed roads and cutblocks for harvesting timber over a period of at least five years. The plan must specify measures that will be carried out to protect forest resources (including water, fisheries and other forest resources). It must also illustrate and describe how objectives and strategies established in higher level plans, where they have been prepared, will be carried out. Site specific plans are required to be consistent with the forest development plan.

2. A silviculture prescription is a site specific operational plan that describes the forest management objectives for an area to be harvested (a cutblock). The silviculture prescriptions examined in the audit are required to describe the management activities proposed to maintain the inherent productivity of the site, accommodate all resource values including biological diversity, and produce a free growing stand capable of meeting stated management objectives. Silviculture prescriptions must be consistent with forest development plans that encompass the area to which the prescription applies.

3. A logging plan is an operational plan that details how, when, and where timber harvesting and road construction activities will take place in a cutblock, in accordance with the approved silviculture prescription and forest development plan for the area. Information about other forest resource values, plus all current field information for the area, must be clearly shown in the logging plan.

Forest Practices Board Compliance Audit Process

C. Forest Practices Board Compliance Audit Process

Background

The Forest Practices Board conducts audits of government's and agreement holders' compliance with the *Forest Practices Code of British Columbia Act* and regulations (the Code). The Board is given the authority to conduct these periodic independent audits by section 176 of the Act. Compliance audits examine forest planning and practices to determine whether or not they meet Code requirements.

The Board undertakes both "limited scope" and "full scope" compliance audits. A limited scope audit involves the examination of selected forest practices (e.g., roads, or timber harvesting, or silviculture) and the related operational planning activities. A full scope audit examines all operational planning activities and forest practices.

The Board determines how many audits it will conduct in a year, and what type of audits (limited or full scope), based on budget and other considerations. The Board audits agreement holders who have forest licences or other tenures under the *Forest Act* or the *Range Act*. The Board also audits government's Small Business Forest Enterprise Program (SBFEP) which is administered by Ministry of Forests district offices. Selection of agreement holders and district SBFEPs for audit is done randomly, using a computer program, to ensure a fair, unbiased selection of auditees.

Audit Standards

Audits by the Forest Practices Board are conducted in accordance with the auditing standards developed by the Board. These standards are consistent with generally accepted auditing standards.

The audits determine compliance with the Code based on criteria derived from the *Forest Practices Code of British Columbia Act* and its related regulations. Audit criteria are established for the evaluation or measurement of each practice required by the Code. The criteria reflect judgments about the level of performance that constitutes compliance with each requirement.

The standards and procedures for compliance audits are described in the Board's *Compliance Audit Reference Manual*.

Audit Process

Conducting the Audit

Once the Board selects an audit and decides on the scope of the audit (limited scope or full scope), the staff and resources required to conduct the audit and the period covered by the audit are determined. Board staff also meet with the party being audited to discuss the logistics of the audit before commencing the work.

All the activities carried out during the period subject to audit are identified. This includes activities such as the sites harvested or replanted and road sections built or deactivated during the audit period. The items that make up each forest activity are referred to as a "population." For example, all sites harvested form the "timber harvesting population." All road sections constructed form the "road construction population." The populations are then sub-divided based on factors such as the characteristics of the sites and the potential severity of the consequences of non-compliance on the sites.

The most efficient means of obtaining information to conclude whether there is compliance with the Code is chosen for each population. Because of limited resources, sampling is usually relied upon to obtain audit evidence, rather than inspecting all activities.

Individual sites and forest practices within each population have different characteristics, such as the type of terrain or type of yarding. Each population is divided into distinct sub-populations on the basis of common characteristics (e.g., steep ground vs. flat ground). A separate sample is selected for each population (e.g., the cutblocks selected for auditing timber harvesting). Within each population, more audit effort (i.e., more audit sampling) is allocated to the sub-population where the risk of non-compliance is greater.

Audit work in the field includes assessments from helicopters and intensive ground procedures such as the measurement of specific features like road width. The audit teams generally spend two to three weeks in the field.

Evaluating the Results

The Board recognizes that compliance with the many requirements of the Code is more a matter of degree than absolute adherence. Determining compliance requires the exercise of professional judgment within the direction provided by the Board.

Auditors collect, analyze, interpret and document information to support the audit results. The audit team, composed of professionals and technical experts, first determines whether forest practices are in compliance with Code requirements. For those practices considered to not be in compliance, the audit team then evaluates the degree to which the practices are judged not in compliance. The significance of the non-compliance is determined based on a number of criteria including the magnitude of the event, the frequency of its occurrence, and the severity of the consequences.

As part of the assessment process, auditors categorize their findings into the following levels of compliance:

Compliance – where the auditor finds that practices meet Code requirements.

Not significant non-compliance – where the auditor, upon reaching a non-compliance conclusion, determines that a non-compliance event, or the accumulation and consequences of a number of non-compliance events, is not significant and is not considered worthy of reporting.

Significant non-compliance – where the auditor determines that the event or condition, or the accumulation and consequences of a number of non-compliance events or conditions, is significant and is considered worthy of reporting.

Significant breach – where the auditor finds that significant harm has occurred or is beginning to occur to persons or the environment as a result of the non-compliance. A significant breach can also result from the cumulative effect of a number of non-compliance events or conditions.

Identification of a possible significant breach requires the auditor to conduct tests to confirm whether or not there has been a breach. If it is determined that a significant breach has occurred, the auditor is required by the *Forest Practices Board Regulation* to immediately advise the Board, the party being audited, and the Ministers of Forests, Energy & Mines, and Environment, Lands & Parks.

Reporting

Based on the above evaluation, the auditor then prepares the "Report from the Auditor" for submission to the Board. The party being audited is given a draft of the report before it is submitted to the Board so that the party is fully aware of the findings. The party is also kept fully informed of the audit findings throughout the process, and is given opportunities to provide additional relevant information and to ensure the auditor has complete and correct information.

Once the auditor submits the report, the Board reviews it and determines whether any party or person is potentially adversely affected by the audit findings. If so, the party or person must be given an opportunity to make representations before the Board decides the matter and issues a final report to the public and government. The representations allow potentially adversely affected parties to present their views to the Board.

At the discretion of the Board, representations may be written or oral. The Board will generally offer written representations to potentially adversely affected parties, unless the circumstances strongly support the need for an oral hearing.

The Board then reviews both the report from the auditor and the representations before preparing its final report, which includes the Board's conclusions and may also include recommendations, if appropriate.

If the Board's conclusions or recommendations result in newly adversely affected parties or persons, additional representations would be required.

Once the representations have been completed, the report is finalized and released: first to the auditee and then to the public and government.